

WHAT IS CLAIMED IS:

1. A semiconductor device in which, at least, part of the semiconductor is coated or sealed with a thermosetting resin material, wherein the thermosetting resin material comprises a solvent-free thermosetting resin composition, which comprises an epoxy resin (a), a product (b) of the reaction of an organosilicon compound, represented by the general formula (1)



(where R is an organic group containing a functional group reactive with an epoxy resin by addition reaction; and R¹ is a methyl or ethyl group), with water in the epoxy resin (a), and a curing agent (c) as essential components and is in a liquid form at a room temperature (25C°), and inorganic filler as essential components.

2. A semiconductor device in which a semiconductor chip and a lead frame are bonded together using a die bonding material containing a thermosetting resin material, wherein the thermosetting resin material comprises a solvent-free thermosetting resin composition, which comprises an epoxy resin (a), a product (b) of the reaction of an organosilicon compound, represented by the general formula (1)



(where R is an organic group containing a functional group reactive with an epoxy resin by addition reaction; and R1 is a methyl or ethyl group), with water in the epoxy resin (a), and a curing agent (c) as essential components and is in a liquid form at a room temperature (25°C), and metallic powder as essential components.

3. A semiconductor device in which the semiconductor and a wiring board are mounted using a thermosetting resin material, wherein the thermosetting resin material comprises a solvent-free thermosetting resin composition, which comprises an epoxy resin (a), a product (b) of the reaction of an organosilicon compound, represented by the general formula (1)



(where R is an organic group containing a functional group reactive with an epoxy resin by addition reaction; and R1 is a methyl or ethyl group), with water in the epoxy resin (a), and a curing agent (c) as essential components and is in a liquid form at a room temperature (25°C), and conductive metallic powder as essential components.